

- 7 -

Remarks

This application has been reviewed in light of the Office Action of January 22, 2003. Claims 1-21 are pending, and all claims stand rejected. In response, claims 1 9-11, 17, 18, and 20 are amended; claim 19 is canceled, without prejudice; new claim 22 is added; and the following remarks are submitted. Reconsideration of this application, as amended, is requested.

Claims 1-13 and 17-21 are provisionally rejected on the ground of double patenting. Applicant traverses this ground of rejection.

In responding to an Office Action in SN 09/957,843, it was discovered that an erroneous claim set had been filed. In the responsive Amendment in that case, a new claim set was filed. Because there is a new claim set in SN 09/957,843, a determination of any possible double patenting will have to await further evaluation.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 1-21 are rejected under 35 USC 112. Applicant traverses this ground of rejection.

The first ground relates to the usage of the term "sintering inhibitor". The Examiner is correct, that Applicant should have used the term "form of a sintering inhibitor", see the discussion in paragraph [0032] of the Specification. That amendment has been made. The intent is to cover both constituents that directly serve as a sintering inhibitor, and constituents that are precursors of constituents that directly serve as a sintering inhibitor, and the reaction products of any of these materials.

The second ground relates to claim 11, and points out that the claim recitation is not fully inclusive. Claim 11 is amended responsively.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Best Available Co.

- 8 -

Claims 1-8, 10-12, 17, 18, and 21 are rejected under 35 USC 102 over Marijnissen US Patent 5,876,860. Applicant traverses this ground of rejection.

The following principle of law applies to sec. 102 rejections. MPEP 2131 provides: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the ... claim. The elements must be arranged as required by the claim..." [citations omitted] This is in accord with the decisions of the courts. Anticipation under section 102 requires 'the presence in a single prior art disclosure of all elements of a claimed invention arranged as in that claim.' Carella v. Starlight Archery, 231 USPQ 644, 646 (Fed. Cir., 1986), quoting Panduit Corporation v. Dennison Manufacturing Corp., 227 USPQ 337, 350 (Fed. Cir., 1985)

Thus, identifying a single element of the claim which is not disclosed in the reference is sufficient to overcome a Sec. 102 rejection.

Amended claims 1 and 11 each recites in part:

"a form of a sintering inhibitor within the columnar grains, wherein the thermal barrier coating material is a major phase, and the form of the sintering inhibitor is a minor phase distributed throughout the thermal barrier coating material, the form of the sintering inhibitor being selected from the group consisting of lanthanum oxide, lanthanum chromate, chromium oxide, and yttrium chromate, mixtures thereof, mixtures thereof with aluminum oxide, modifications thereof wherein cobalt or manganese is substituted for chromium, precursors thereof, and reaction products thereof." [emphasis added]

Marijnissen teaches at col. 5, lines 12-13 that "Exemplary ceramic compositions include zirconia and zirconia stabilized with yttria, ceria, calcia, scandium oxide, lanthanum oxide, or mixtures thereof." Applicant believes that the construction of this language

Best Available Copy

- 9 -

most favorable to the rejection is a disclosure of zirconia stabilized with a mixture of yttria and lanthanum oxide.

Marijnissen has no such disclosure of a major phase and a minor phase, where the major phase is the basic ceramic of the thermal barrier coating, and the minor phase is the distributed form of the sintering inhibitor. Claims 1 and 11 and their dependent claims are therefore believed to be allowable over this ground of rejection.

Claim 17 is amended to incorporate the limitations of claim 19, which is not rejected on this ground, and claim 19 is canceled. Claim 17 and its dependent claims are therefore believed to be allowable over this ground of rejection.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 1-13 and 15-21 are provisionally rejected under 35 USC 102 as anticipated by copending application SN 09/957,843. Applicant traverses this provisional ground of rejection.

As noted above, the claims of SN 09/957,843 were erroneous as filed and have now been corrected. Applicant is investigating the relation of the two cases further.

Claims 1-6, 8, 10-13, 16-18, and 21 are rejected under 35 USC 102 over Heimberg US Patent 6,440,575. Applicant traverses this ground of rejection.

Claims 1 and 11 each recites in part:

"the thermal barrier coating material is a major phase, and the form of the sintering inhibitor is a minor phase distributed throughout the thermal barrier coating material"

Heimberg has no such disclosure of a major phase and a minor phase, where the major phase is the basic ceramic of the thermal barrier coating, and the minor phase is the distributed form of the sintering inhibitor. Heimberg discloses that care is taken to avoid "a two-phase character", see col. 6, lines 38-40, which is a structure like that

Best Available Copy

- 10 -

recited in the claims.

Claim 17 is amended to incorporate the limitations of claim 19, which is not rejected on this ground, and claim 19 is canceled. Claim 17 is therefore believed to be allowable over this ground of rejection.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 1-6, 8, 9, 11-13, 16, 17, and 19-21 are rejected under 35 USC 102 as anticipated by Subramanian US Patent 6,296,954. Applicant traverses this ground of rejection.

Claims 1 and 11 each recites in part:

"the thermal barrier coating material is a major phase, and the form of the sintering inhibitor is a minor phase distributed throughout the thermal barrier coating material"

Subramanian has no such disclosure of a major phase and a minor phase, where the major phase is the basic ceramic of the thermal barrier coating, and the minor phase is the distributed form of the sintering inhibitor.

Claim 17 recites in part:

"a form of a sintering inhibitor within the columnar grains, the form of the sintering inhibitor being selected from the group consisting of, lanthanum chromate, chromium oxide, and yttrium chromate, mixtures thereof, mixtures thereof with aluminum oxide, modifications thereof wherein cobalt or manganese is substituted for chromium, precursors thereof, and reaction products thereof"

Lanthanum oxide is no longer listed. Subramanian has no such disclosure.

Applicant asks that the Examiner reconsider and withdraw this ground of

Best Available Copy

- 11 -

rejection.

Claims 1-13 and 17-21 are rejected under 35 USC 102 on the ground that the named inventors did not invent the present subject matter. Applicant traverses this ground of rejection.

With the correction of the pending claims in SN 09/957,843, Applicant believes that this ground of rejection is overcome.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claim 7 is rejected under 35 USC 103 over Heimberg in view of Marijnissen. Applicant traverses this ground of rejection.

The following principle of law applies to all sec. 103 rejections. MPEP 2143.03 provides "To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." [emphasis added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not found in any of the applied prior art, the rejection cannot stand. In this case, the applied prior art references clearly do not arguably teach some limitations of the claims.

Claim 7 incorporates the limitations of claim 1. Neither reference teaches these limitations for the reasons stated earlier in relation to the respective sec. 102 rejections. Neither reference teaches the limitation of the major and distributed minor phases.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claim 7 is rejected under 35 USC 103 over Subramanian in view of Marijnissen. Applicant traverses this ground of rejection.

Best Available Copy

- 12 -

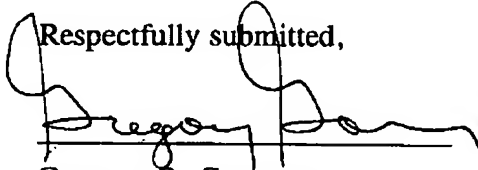
Claim 7 incorporates the limitations of claim 1. Neither reference teaches these limitations for the reasons stated earlier in relation to the respective sec. 102 rejections. Neither reference teaches the limitation of the major and distributed minor phases.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Applicant submits that the application is now in condition for allowance, and requests such allowance.

I hereby certify that this paper (Amendment of 12 pages, Fee Transmittal of 1 page, Petition for Extension of Time of 1 page, for a total of 14 pages) is being facsimile transmitted to the Patent and Trademark Office at fax 703-872-9310 on June 23, 2003.

Respectfully submitted,


Gregory O. Garmong

Reg. No. 29,382

Attorney for Applicant

TC 1700

JUN 24 2003

FAX RECEIVED

Best Available Copy